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FORT COLLINS, CO 80527-2400		

EXAMINER	
CHOU, ANDREW Y	

ART UNIT	PAPER NUMBER
2192	

NOTIFICATION DATE	DELIVERY MODE
02/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/621,207

Applicant(s)

GROVER ET AL.

Examiner

Andrew Chou

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8, 10-15, and 17 have been examined. Claims 1, 10, and 15 have been amended. Claims 9 and 16 have been cancelled.

Response to Amendment

2. Applicant's arguments with respect to claims 1-8, 10-15, and 17 have been considered but are moot in view of the new ground(s) of rejection. (See Subramanian made of record below)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subramanian et al. US 2003/0018681 A1 (hereinafter Subramanian) in view of Kappel et al. US 2002/0029299 (hereinafter Kappel).

Claim 1:

Subramanian discloses an exception handling mechanism comprising:

an exception handler for recording exception information dependant on types of exceptions and programming tasks that encounter exceptions (see for example Figure 3, item 6, and related text); and

a recovery agent for taking an action upon an occurrence of an exception that occurred for a programming task, wherein the action is performed outside of a debugging operation (see for example page 2, [0028], Fig. 3, "...application recovery system...", 30);

wherein the action to be taken upon the occurrence of the exception corresponds to a type of exception and a programming task, and includes one or a combination of restarting the programming task, terminating the programming task, resetting a system running the programming task, and disregarding the exception (see for example page 2, [0029], lines 6-12, Fig. 4, and related text),

Subramanian does not disclose an exception handling mechanism wherein the exception handler and the recovery agent run on a first system operates autonomously and is embedded in a second system. However, Kappel in the analogous art of exception handling discloses an exception handling mechanism wherein the exception handler and the recovery agent run on a first system operates autonomously and is embedded in a second system (see for example FIG. 1, wherein the exception handler and the recovery agent is run on the first system, "Client" 11a, which is embedded via the "Network" 16 onto the second system, "Server", item 14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an exception handling mechanism wherein the exception handler and the recovery

agent run on a first system operates autonomously and is embedded in a second system to handle exceptions with greater flexibility and expandability (see Kappel, page 1, [0014]).

Claim 2:

Subramanian further discloses the mechanism of claim 1 wherein the recorded exception information associated with an exception is associated with a signature for identifying the recorded exception information with its associated exception (see for example page 4, [0056]).

Claim 3:

Subramanian further discloses the mechanism of claim 2 wherein the signature includes a version of a program running the programming task (see for example page 4, [0056]).

Claim 4:

Subramanian further discloses the mechanism of claim 1 wherein a plurality of sets of exception information for a plurality of exceptions is maintained in the system.
running the programming task (see for example page 2, [0025]);
each set of exception information being associated with a signature for identifying that set of exception information (see for example page, [0056]).

Claim 5:

Subramanian further discloses the mechanism of claim 1 wherein the recorded exception information associated with an exception is associated with a signature for identifying the format of the exception information (see for example page 5, [0071]).

Claim 6:

Subramanian further discloses the mechanism of claim 1 wherein the recorded exception information includes data related to a program stack, including data to reconstruct the program stack at time of exception (see for example page 5, [0067]).

Claim 7:

Subramanian further discloses the mechanism of claim 1 further comprising an analysis tool communicating via an interface with the system running the programming task, for identifying causes of the exception (see for example page 3, [0036]).

Claim 8:

Subramanian further discloses the mechanism of claim 7 wherein the analysis tool uses a version to match the object code of a program running the programming task to the source code of the program (see for example page 3, [0045]).

Claim 15:

Subramanian discloses a computing system comprising:

an exception handler for recording exception information on non-volatile memory upon an occurrence of an exception (see for example Figure 1, item 6, and related text); and
a recovery agent for taking an action upon the occurrence of the exception based on the recorded exception information, wherein the action is performed outside of a debugging operation (see for example page 2, [0028], "...application recovery system..."); and
an analysis tool for identifying the cause of the exception (see for example page 3, [0036]);

Subramanian does not disclose a computing system wherein the analysis tool receives the exception information from the nonvolatile memory via an interface interfacing a first

system and a second system running the exception handler and the recovery agent wherein the second system is embedded in a third system and the second system operates autonomously of other systems. However, Kappel in the analogous art of exception handling discloses an a computing system wherein the analysis tool receives the exception information from the nonvolatile memory via an interface interfacing a first system and a second system running the exception handler and the recovery agent wherein the second system is embedded in a third system and the second system operates autonomously of other systems (see for example FIG. 1, wherein the exception handler and the recovery agent is run on the first system, "Client" 11a, which is embedded via the "Network" 16 onto the second system, "Server", item.14, third system, "Client" 11b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a computing system wherein the analysis tool receives the exception information from the nonvolatile memory via an interface interfacing a first system and a second system running the exception handler and the recovery agent wherein the second system is embedded in a third system and the second system operates autonomously of other systems (see Kappel, page 1, [0014]).

Claim 17:

Subramanian further discloses the computing system of claim 15 wherein the recorded exception information includes data related to a program stack (see for example page 4, [0054]).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 10-14 are rejected under 35 U.S.C. 102(a) as being anticipated by Subramanian et al. US 2003/0018681 A1 (hereinafter Subramanian).

Claim 10:

Subramanian discloses a processing system comprising:

a first system (see for example Figure 3);

an autonomous second system embedded in the first system; an exception handler running in the second system for recording exception information upon an occurrence of an exception in the second system (see for example page 2, [0024], "...exception handler..."); and

a recovery agent running on the second system, for taking an action upon the occurrence of the exception based on the recorded exception information, wherein the action is performed outside of a debugging operation (see for example page 2, [0028], "...application recovery system"....);

wherein the action corresponds to a type of exception that occurred in a programming task (see for example page 3, [0045]).

Claim 11:

Subramanian further discloses the processing system of claim 10 further comprising an analysis tool for receiving, via an interface, the recorded exception information from the second system and for identifying the cause of the exception (see for example page 3, [0036]).

Claim 12:

Subramanian further discloses the processing system of claim 10 wherein the second system includes nonvolatile memory for storing exception information (see for example page 4, [0056]).

Claim 13:

Subramanian further discloses the processing system of claim 12 wherein the exception information stored in the non-volatile memory is compressed (see for example page 4, [0056]).

Claim 14:

Subramanian further discloses the processing system of claim 12 wherein the exception information stored in non-volatile memory includes a plurality of sets of exception information, each set being associated with an exception and a signature (see for example page 4, [0056]).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Chou whose telephone number is (571) 272-

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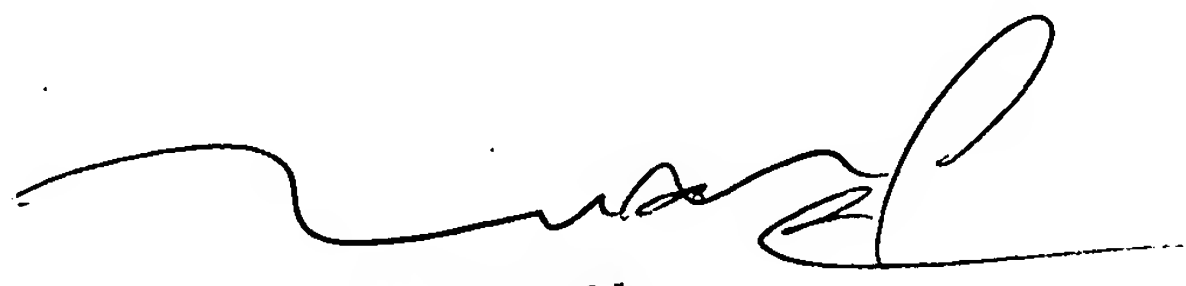
6829. The examiner can normally be reached on Monday-Friday, 8:00 am - 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached on (571) 272-3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free)

AYC



TUAN DAM
SUPERVISORY PATENT EXAMINER